Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The others were presented by their respective authors. The programs of the affiliated societies were, in general, very much more extensive than those of the Sections. For instance, the program of the American Mathematical Society contained fifty-four titles and the American Physical Society had an almost equally extensive list.

While such meetings afford excellent apportunities to learn important facts which have just been discovered, they serve also to inspire one to renewed efforts, and to extend and deepen friendships between those who are working along various scientific lines. The latter desirable ends are greatly promoted by numerous dinners and smokers as well as by the fact that a large number of those who attend select the same hotel.

The weekly journal called *Science* is the official organ of the Association and the reader is referred to its columns for reports of the meetings of all sections. In some cases, more technical details, as regards the scientific results, may be found in the journals published by the various scientific societies which meet in affiliation with the Association. The next meeting of the Association is to be held at Atlanta, Georgia, under the presidency of Professor E. B. WILSON, Columbia University. Director Frank Schlesinger, Allegheny Observatory, and Professor F. R. Moulton, University of Chicago, were elected chairman and secretary respectively, of Section A. The term of the former office is only one year while that of the latter is five years.

G. A. MILLER,
Retiring Secretary of Section A.

MAXIMUM PARCELS UNDER THE NEW PARCEL POST LAW.

The size of a parcel that can be mailed under the rules of the Parcel Post Law is limited in three ways. It must be not more than three feet and six inches in length. It must not weigh more than eleven pounds. The sum of its length and girth must not exceed six feet. The girth is measured around a cross section perpendicular to the length; and since the greatest girth is the one measured, all such cross sections should be equal to the largest of them if it is desired that the volume be a maximum. Furthermore, since the circle has a larger area for a given perimeter than any other closed curve, the parcel should be in the form of a right circular cylinder if the volume is to be a maximum. Let R denote the radius of the base of the cylinder, V its volume and x its altitude or length. Then $V = \pi R^2 x$, and $2\pi R + x = 6$. From these two equations it is easily found by differential calculus that for a maximum value of V the length must be two feet and the girth four feet. The maximum value of V is 2.546 cubic feet. This is the largest mailable volume.

If the parcel to be mailed has its cross sections all equal and of a specified shape which is not circular, it is still true that the length should be two feet and the girth four feet for maximum volume. To prove this, let P denote the perimeter of a cross section and A its area. As P changes in value, the shape of the cross section remaining constant, A varies as P^2. That is, $A = kP^2$. Then if L denote the length of the parcel, and V its volume, $V = kP^2L$ and $L + P = 6$. From these two equations the value of P that makes V a maximum is found to be 4. The corresponding value of L is 2.

Since a square has a larger area than any other rectangle having the same perimeter, the largest mailable box in the form of a rectangular parallelopiped is therefore one whose dimensions are 1 × 1 × 2 feet. Its volume is 2 cubic feet. The largest mailable cube is one whose edge is 14.4 inches long. Its volume is 1.728 cubic feet. The largest mailable sphere has a diameter of 17.38 inches. Its volume is 1.592 cubic feet.

A cube whose edge is 15 inches is not mailable because the sum of its length and girth is 75 inches. But a right circular cylinder, whose length is 24 inches and whose diameter is 15.27 inches, is mailable, because the sum of its length and girth is only 72 inches, in spite of the fact that its volume exceeds that of the cube by more than 1,000 cubic inches, and the fact that it would take up more room in a mail car. Thus the use of the sum of length and girth as a measure of size leads to the absurd result that sometimes the smaller of two parcels will be rejected by the postal authorities because it is too large, while the larger of the two will be accepted as being small enough. In spite of this absurd result, the rule can be amply justified on the ground of the ease with which it can be applied. With a six-foot tape, the postal clerk can tell in a moment whether or not a parcel is too large to be mailed. The man who is waiting his turn at the post office window will be glad that the clerk does not have to compute the cubical content of every parcel presented.

W. H. Bussey.

NEW BOOKS.

W. H. Bussey, Chairman of the Committee.

A short account of the history of mathematics, 5th edition, by W. W. R. Ball. London and New York, Macmillan, 1912. 24 + 536 pp. $3.25.

Practical geometry and graphics; a text book for students in technical and trade schools, evening classes, and for engineers, artisans, draughtsmen, architects, etc., by E. L. Bates and F. Charlesworth. New York, Van Nostrand, 1912. 8 + 621 pp. $2.00.

Practical mathematics, by E. L. Boter and F. Chorlesworth. New York, Van Nostrand, 1912. 8 + 513 pp. $1.50.

Elements of descriptive geometry, by G. F. Blessing and L. A. Darling. New York, Wiley, 1912. 14 + 219 pp. $1.50.

The method of Archimedes recently discovered by Heiberg; a supplement to "The works of Archimedes," 1897, edited by T. L. Heath. New York, Putnam, 1913. 51 pp. $0.75.